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United States Patent [19][11] **Patent Number:** **5,525,183****Baley**[45] **Date of Patent:** **Jun. 11, 1996**[54] **METHOD AND APPARATUS FOR
RECONDITIONING AND RESEALING A
TONER CARTRIDGE**[75] **Inventor:** **Raymond Baley, Apopka, Fla.**[73] **Assignee:** **Bay-Bro Corporation, Longwood, Fla.**[21] **Appl. No.:** **305,247**[22] **Filed:** **Sep. 13, 1994****Related U.S. Application Data**

[63] Continuation-in-part of Ser. No. 83,348, Jun. 28, 1993, Pat. No. 5,407,518, which is a continuation-in-part of Ser. No. 825,850, Jan. 27, 1992, Pat. No. 5,223,068.

[51] **Int. Cl.⁶** **B32B 31/00**[52] **U.S. Cl.** **156/344; 156/94; 156/250;
355/260; 141/364; 222/DIG. 1**[58] **Field of Search** **156/94, 250, 257,
156/344, 510, 584; 83/703, 704, 869, 876,
885; 29/402.02, 402.03; 264/36; 355/245,
260; 141/18, 364; 222/DIG. 1**[56] **References Cited****U.S. PATENT DOCUMENTS**

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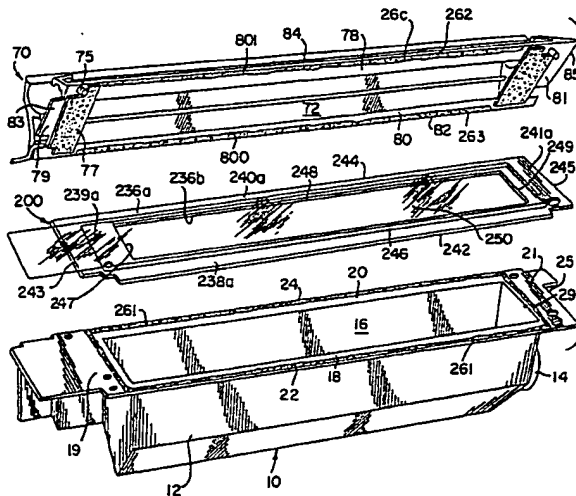
Primary Examiner—David A. Simmons**Assistant Examiner**—Paul M. Rivard**Attorney, Agent, or Firm**—Wallenstein & Wagner, Ltd.

[57]

ABSTRACT

The present invention is a method and apparatus for reconditioning and resealing toner cartridges.

The method generally comprises the following steps: a) providing a used toner cartridge having a hopper, a mounting member and spacers interposed therebetween, b) separating the toner hopper and mounting member by cutting the spacers, and c) securing a new seal assembly between said toner hopper and mounting member to seal the toner discharge opening. The invention includes a device for separating a toner hopper from a mounting member so that the cartridge can be reliably resealed and refilled with toner for repeated use. A container holds the cartridge while leaving the outer edge of each of the spacers exposed. In one embodiment, the container is provided with wheels that travel in a track. The container moves linearly along the track past a blade that cuts through the outer edge of the spacers. In a second embodiment, the container is positioned on a rail aligned to pass between two spaced-apart blades. The rail is mounted on a linear bearing so that the rail moves linearly past the blades to cut through both of the outer edges of the spacers in a single pass. This allows the hopper to be separated from the mounting member. Finally, a vacuum system is provided for removing waste debris.

14 Claims, 11 Drawing Sheets

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TITLE: Method and apparatus for reconditioning and resealing a
toner cartridge

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Abstract Text - ABTX (2):

The method generally comprises the following steps: a) providing a used toner cartridge having a hopper, a mounting member and spacers interposed therebetween, b) separating the toner hopper and mounting member by cutting the spacers, and c) securing a new seal assembly between said toner hopper and mounting member to seal the toner discharge opening. The invention includes a device for separating a toner hopper from a mounting member so that the cartridge can be reliably resealed and refilled with toner for repeated use. A container holds the cartridge while leaving the outer edge of each of the spacers exposed. In one embodiment, the container is provided with wheels that travel in a track. The container moves linearly along the track past a blade that cuts through the outer edge of the spacers. In a second embodiment, the container is positioned on a rail aligned to pass between two spaced-apart blades. The rail is mounted on a linear bearing so that the rail moves linearly past the blades to cut through both of the outer edges of the spacers in a single pass. This allows the hopper to be separated from the mounting member. Finally, a vacuum system is provided for removing waste debris.